

Plug In Hybrid Electric Vehicle Aftermarket Parts Certification Requirements

**California Air Resources Board
Public Workshop
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Outline

- Applicable Regulations
- Current Certification Process
 - Vehicles within OEM Warranty
 - Vehicles outside OEM Warranty
- Proposed Aftermarket Parts Certification Requirements
- Summary and Staff Recommendation

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Applicable Regulations

- Anti Tampering
 - Federal Regulation
 - Clean Air Act Section 203
 - State Regulation
 - Vehicle Code Section 27156
- Safety
 - National Highway Traffic Safety Administration (NHTSA)
 - Title 49 United States Code 302122
 - Self Certification

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Conversion of Vehicles Still Under OEM Warranty

- Recertify conversion as new vehicle
- Considered small volume original equipment manufacturer (OEM)
- Warranty
 - For entire vehicle
 - Length dependent on certification level
- Full OEM Certification Requirements
 - In Use
 - Durability
 - Emission Testing requirements
 - Recall requirements

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Conversion of Vehicles Outside OEM Warranty

- Anti tampering provisions apply
- Less onerous than OEM Certification
- Aftermarket Certification procedures apply
 - Minimal Certification Requirements
 - In Use
 - Durability
 - Emission Testing

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Conversion Issues

- Modifying extremely clean vehicles
- Vehicle designed with limited electric range
- Sensors and system designed to evaluate potential issues related to the OEMs specific vehicle design
- Emissions can increase substantially
 - Uncontrolled and increase in engine cold starts
 - Evaporative canister breakthrough
- Issues related to conversion failures

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Certification & Installation Procedures

- Similar to other Aftermarket Part Certification procedures
- Applies to installations on 2000 and subsequent MY HEVs
- Allows modification of vehicles under OEM warranty
- Requirements reduced from OEM certifications
 - Exhaust and Evaporative emissions testing
 - Durability
 - In-Use Testing
 - OBD System Compatibility
- Warranty

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Proposal

Tier 1

- Allows sale of up to 10 vehicles
- Application Requirements
 - Engineering analysis on emissions impact
 - Durability test plan and initial durability data (component and in-use)
 - System Warranty 3yr/50K mi
 - Installation Warranty 3yr/50K mi
- ARB approval of engineering analysis & submittal prior to exemption/sale

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Tier 2

- Allows sale of 11th up through 100th vehicles
- Additional Application Requirements
 - Emission test data supports engineering analysis
 - Durability testing started
 - OBD compliance plan
 - Show of readiness indicators set and no OBD MIL/ DTC during emission tests
 - System warranty: 5yr/75K mi
 - System supported through vehicle's useful life
 - ARB may perform confirmatory testing to verify emission test data. If requested, provide test vehicle.
- ARB approval of engineering analysis & submittal prior to exemption/sale

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Tier 3

- Allows sale beyond the 100th vehicle conversion
- Additional Application Requirements
 - Durability test data requirements completed
 - Battery durability/test data
 - OBD approval
 - System warranty: 5yr/75K mi or remaining OEM warranty, whichever is longer
- ARB approval of engineering analysis & submittal prior to exemption/sale

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Discussion

- During workshop email questions & comments to:
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- After workshop email questions & comments to:
lcrowell@arb.ca.gov